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ABSTRACT

Developed as part of a 37.5-hour microeconomics course, this lesson plan focuses on the concepts of supply and demand analysis used to determine market equilibrium. The objectives of the 50-minute lesson are to enable the student to: (1) explain how a demand schedule is derived from raw data; (2) graph a demand curve from the demand schedule; (3) state the Law of Demand; (4) explain the three determinants of demand; (5) explain how a supply schedule is derived from raw data; (6) graph a supply curve from the supply schedule; (7) state the Law of Supply; (8) explain the three determinants of supply; and (9) combine the demand and supply curves to determine equilibrium. The lesson plan begins with information on the course for which the plan was developed; equipment and audio-visual aids needed; requirements for student materials; course objectives; bibliographic references; and special remarks for the instructor. Next, a step-by-step outline of the instructor's presentation is provided in a format indicating the length of time and the equipment or other aids needed for each step of the lesson. Course handouts and transparency masters are included. (EJV)

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DEFINITIONS AND BASIC CONCEPTS OF SUPPLY AND DEMAND ANALYSIS
USED TO DETERMINE MARKET EQUILIBRIUM

Principles of Economics II (Microeconomics),
Lesson Plan No. 6

Vicky Chiu-Irion

Western Curriculum Coordination Center
University of Hawaii, Manoa

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LESSON PLAN

LESSON PLAN NO. 6		INSTITUTION / AGENCY: KAPIOLANI COMMUNITY COLLEGE		PAGE 1 OF 19 PAGES
COURSE OF INSTRUCTION AND COURSE NUMBER: Economics 151: Principles of Economics II (Microeconomics)		TOTAL HOURS: 37 1/2	LESSON TITLE: Definitions and Basic Concepts of Supply and Demand Analysis Used to Determine Market Equilibrium	
DAY AND DATE OF INSTRUCTION: Thursday, November 20, 1986		HOURS 6:30 - 7:20 pm	PLACE: Wist Hall, Room 112	
NO. OF STUDENTS: 6	REHEARSAL: November 18, 1986	INSTRUCTOR AND ASSISTANTS: XXXXXXXXXXXXX V. Chiu-Irion		STUDENT MATERIALS AND DRESS: Notebook (or paper to take notes) Pencil/Pen Straight edge (or ruler)
REFERENCES: Spencer, Milton, <u>Contemporary Microeconomics</u> , 6th edition, Worth Publishers, 1986, pp. 28-48. Gilley, Otis W., <u>Student Learning Guide, Economics Today: The Macro View</u> , Harper and Row, 1985, p. 21.		EQUIPMENT AND AUDIO-VISUAL AIDS: Overhead Projector (and spare bulb) Screen for overhead projector Colored Pens for overhead projector Arrow for pointing on overhead transparency Colored Chalk Pointer Handouts: #1 outline of lecture #2 problem Transparencies: #1 Objectives (of this lesson) #2 Graph for Demand (problem) #3 Graph for Supply (problem) 12 manapuas and napkins Plastic Ruler (to draw lines on transparency)		
OBJECTIVES: *Continued on Page 2. 3		SPECIAL REMARKS: Check AV materials Check to make sure there are enough handouts 4		

Lesson Plan No. 6

Objectives:

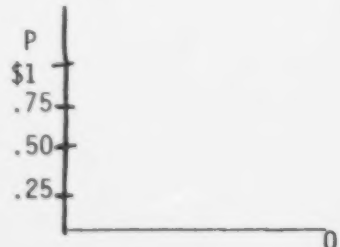
At the end of the 50 minute lecture/discussion, the student will be able to:

- 1) Explain how a demand schedule is derived from raw data.
- 2) Graph a demand curve from the demand schedule.
- 3) State, in writing, the Law of Demand.
- 4) Explain, in writing, the three (3) determinants of demand.
- 5) Explain how a supply schedule is derived from raw data.
- 6) Graph a supply curve from the supply schedule.
- 7) State, in writing, the Law of Supply.
- 8) Explain, in writing, the three (3) determinants of supply.
- 9) Combine the demand and supply curves to determine equilibrium.

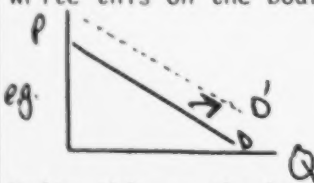
PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS																														
4) Explain, in writing, the three determinants of demand; 5) Explain how a supply schedule is derived from raw data; 6) Graph a supply curve from the supply schedule; 7) State, in writing, the Law of Supply; 8) Explain, in writing, the three determinants of supply; and 9) Combine the demand and supply curves to determine equilibrium.	(min.)	Turn off overhead projector.																														
2. <u>EXPLANATION</u>																																
a. Introduction to Demand We best know the role of a consumer. Put on a "consumer" or "buyer" hat. We will now discover how a consumer thinks and acts. In doing this, you will formally derive the economic concept of demand. You really already know this model, but have probably never thought about it! We will now derive a <u>demand schedule</u> .	1																															
b. Demand Schedule A demand schedule is just a list of different prices and the corresponding quantities that people want and are able to buy. Let's suppose our society was composed of 4 consumers. Thus, these 4 people make up the total market. Let's also name these 4 people "A," "B," "C," and "D."	1																															
	2	Write on board: <table><tr><th>Price</th><th>A</th><th>B</th><th>C</th><th>D</th><th>TOTAL</th></tr><tr><td>\$1.00</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>.75</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>.50</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>.25</td><td></td><td></td><td></td><td></td><td></td></tr></table>	Price	A	B	C	D	TOTAL	\$1.00						.75						.50						.25					
Price	A	B	C	D	TOTAL																											
\$1.00																																
.75																																
.50																																
.25																																
8 Ask students (call on by name) to respond to various prices of manapuas on board: How many manapuas would you buy right now if the price was (\$1.00, 75¢, 50¢, 25¢)?		Pass out manapuas.																														
		9																														

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
Now to get the total market demand, we add up the quantities (numbers) horizontally. You probably didn't realize it, but you have just demonstrated the economic concept of demand! <u>DEMAND</u> is a relation showing the various amounts of a commodity that buyers would be <u>willing and able</u> to buy at <u>various prices</u>, during a <u>given time period</u>, <i>ceteris paribus</i>. <u>CETERIS PARIBUS</u> means to hold everything else constant. Only price can vary. Explain the underlined words: <u>willing and able</u> (want to buy; can afford to buy); <u>various prices</u> (this is the independent variable--everything else depends on it); <u>given time period</u> (one hour? one day? one week? one month? The amount that you want depends on the time period.).	(min.) 1	Fill in the table. Add numbers horizontally to get TOTAL. Fill in TOTAL column. Write on board as say the words. (Write it to one side so that it will be out of the way; it will be used later. Do not erase!)
c. Demand Curve This table gives us a lot of information, but it still seems like just a bunch of numbers. Let's graph this and look at the relationship between price, abbreviated "P," and the total amount, abbreviated "Q," that this society wants. To graph any relation, we first need to set up our axes. In graphing demand relations, we will always put Q (quantity) on the horizontal axis. Price (P) will always be found on the vertical axis. Our prices range from \$1 to 25¢; our highest value for Q is ____ (use number on board).	2	Draw on board: 

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OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
Now let's see what happens if something other than price changes. We first relax the <i>ceteris paribus</i> assumption. e. The Three Determinants of Demand When anything else <u>but</u> price changes, we say there has been a "CHANGE IN DEMAND." In this case, the whole demand curve moves. This is another example of English phrases (words) meaning exactly the same thing to a person, but in Economics, the phrases take on very different meanings. We categorize the changes in demand into three groups. (1) First, income could change. As income increases, demand for a good increases (e.g., steak). Likewise, if income decreases, so does demand. <u>QUESTION:</u> Can you think of any other products that you buy more of as your income increases? <u>ANSWERS:</u> Will vary. Suggestions: vacation; jewelry; fancy cars. On the other hand, for some goods, as income increases, demand for that good decreases (e.g., spam). Likewise, if income decreases, demand for that good increases. <u>QUESTION:</u> Can you think of any other products that you buy more of as your income decreases? <u>ANSWERS:</u> Will vary. Suggestions: hot dogs; generic products. (2) Secondly, the price of related goods could change For example, let's look at goods which are substitutes for each other. Hamburgers and manapua would be a good example.	3 min.	Write this on the board.  Write this on the board. Write this on the board: P_{OG}. Write "substitutes" underneath.

PRESENTATION

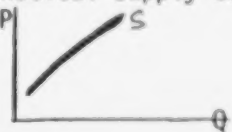
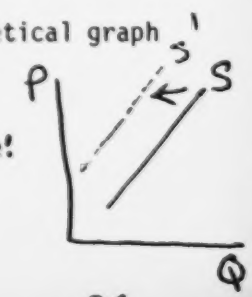
OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
When the price of hamburgers increases, quantity demanded of hamburgers decreases. Then the demand for manapua increases. <u>QUESTION</u>: Can you think of any other goods which are substitutes for each other? <u>ANSWERS</u>: Will vary. Suggestions: Coke and Pepsi; Beer and Wine. On the other hand, some goods are complimentary. Let's look at hot dogs and hot dog buns. As the price of hot dogs increases, the quantity demanded of hot dogs decreases. Then the demand for hot dog buns decreases too. <u>QUESTION</u>: Can you think of any other goods which are complimentary? <u>ANSWERS</u>: Will vary. Suggestions: bread and butter; spam and rice; rum and coke; guns and bullets. (3) Last, nonmonetary factors could influence demand. Examples of this are population (as the number of people on Oahu increases, so does the demand for McDonald's hamburgers) and tastes and preferences (as wine coolers are the "in" thing to drink, demand for wine coolers increases). f. Brief Review Let's review the demand side. First we gathered raw data. From this raw data, we obtained a demand schedule by organizing it into a table. Then we graphed this data and formed a demand curve.	1 min. 1 1 1 1	Write on board: $P_h \uparrow \rightarrow Q_{d_h} \downarrow \rightarrow D_m \uparrow$ as the words are being said. Write on board: $P_h \uparrow \rightarrow Q_{d_h} \downarrow \rightarrow D_b \downarrow$ as the words are being said. Write this on the board. Write "population" on board. Write "tastes and preferences" on board. Point to relevant sections of the blackboard as each item is named.

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS																														
We then differentiated between changes in "demand" and changes in "quantity demanded" on the graph. A change in demand: movement of the whole curve (due to something other than price). A change in quantity demanded: movement along the curve (due only to changes in price). Finally we defined the three determinants of demand. <u>QUESTION:</u> What are they? <u>ANSWER:</u> (Call on someone) Income, Price of other related goods, and Nonmonetary factors such as population and tastes and preferences. <u>QUESTION:</u> Are there any other questions? (Pause!) <u>ANSWER</u> as appropriate.	(min.) 1 1																															
g. Supply Schedule Now we are ready to explore the other side: supply. Now we have to put on a supplier's hat. Before class I polled some students like yourselves and got the following information. <table><tr><th>Price</th><th>A</th><th>B</th><th>C</th><th>D</th><th>TOTAL</th></tr><tr><td>\$1.00</td><td>10</td><td>10</td><td>25</td><td>8</td><td>53</td></tr><tr><td>.75</td><td>6</td><td>0</td><td>20</td><td>7</td><td>43</td></tr><tr><td>.50</td><td>4</td><td>0</td><td>15</td><td>6</td><td>25</td></tr><tr><td>.25</td><td>2</td><td>0</td><td>10</td><td>5</td><td>17</td></tr></table> You see, this is very similar to the demand relation. Here's the definition of supply. Supply is a relation showing the various amounts of a commodity that sellers would be willing and able to sell, at various prices, during a given time period, <i>ceteris paribus</i>.	Price	A	B	C	D	TOTAL	\$1.00	10	10	25	8	53	.75	6	0	20	7	43	.50	4	0	15	6	25	.25	2	0	10	5	17	2 1	Write on the board. Go to the definition of demand on the board, take a piece of colored chalk and change only the necessary words. (Cross out; do not erase; write correct word per the definition of supply.)
Price	A	B	C	D	TOTAL																											
\$1.00	10	10	25	8	53																											
.75	6	0	20	7	43																											
.50	4	0	15	6	25																											
.25	2	0	10	5	17																											

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PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
h. Supply Curve Now we will graph the data in the supply schedule to obtain the supply curve. The steps are exactly the same as was for demand. First, draw the axes. Price is always on the vertical axis; Quantity is plotted on the horizontal axis. Second, plot the points. Finally, connect the dots. The result is a supply curve. Again, this is a model--a simplification of the real world. In future discussions, we will represent a supply curve as a straight line that is upward sloping. i. Law of Supply There is a Law of Supply--just like there is a Law of Demand. It states: The quantity supplied of a good varies directly with its price, <i>ceteris paribus</i>. In other words, as price increases, suppliers are willing and able to sell more of a commodity and vice versa, <i>ceteris paribus</i>. If price changes, we get a "change in quantity supplied (Q_s)"--this is represented by a movement <u>along</u> the supply curve. If something other than price changes, we get a "change in supply"--this is represented by a movement of the whole curve. j. The Three Determinants of Supply What causes a change in supply? Just like demand, there are three categories.	(min.) 1 1 1 2	Do this on the board. Do this on the board. Do this on the board. Draw a hypothetical supply curve on the board:  Go to the Law of Demand on the board, take a piece of colored chalk and change only the necessary words. (Cross out; do not erase; write correct words per Law of Supply.) Show this on the hypothetical graph of a supply curve.  Draw this to demonstrate!

PRESENTATION

OUTLINE OF INSTRUCTION	TIME (min.)	METHODS OF INSTRUCTION AND AIDS
(1) Price of inputs As resource prices increase, supply decreases. This means that at each and every price, suppliers are willing and able to supply less. On the other hand, as resource prices decreases, supply increases. When inputs are cheaper, suppliers are willing and able to supply more.	2	Write on board.
(2) Prices of other goods affects profitability If you expect price to fall in the near future, suppliers would sell all that they could right now.	1	Write on board.
(3) Nonmonetary factors Technology is important. As new ways are found to make products, suppliers are willing and able to supply more at each and every price. For example, look at the price of calculators. When they first came out in the early 1970's, they were very expensive. As technology developed, calculators could be made more inexpensively. Thus, the suppliers were willing and able to supply more. The number of sellers in the market also determines supply. When more firms are in the market, supply increases. On the other hand, when there are less, supply decreases.	2	Write on board. Write "technology" on board. Write "# of sellers" on board. Demonstrate this on the supply curve.
k. Brief Review Before combining demand and supply, let's review the supply side. First we gathered raw data. The raw data was then organized into a supply schedule. Then, this data was graphed to form a supply curve.	2	Point to relevant sections of the blackboard as each item is named.

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OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
We then differentiated between changes in "Supply" and changes in "quantity supplied" on the graph. <u>QUESTION:</u> What is the difference between a change in supply and a change in quantity supplied? <u>ANSWER:</u> A change in supply is caused by something other than price and involves a movement of the whole supply curve. A change in quantity supplied is caused by price, and is represented on the graph as a movement along the same supply curve. Finally, we defined the three determinants of supply. <u>QUESTION:</u> What are the three determinants of supply? <u>ANSWER:</u> Price of inputs, prices of other goods, and nonmonetary factors. Now we are ready to combine demand and supply to determine market equilibrium. 1. Combine the demand and supply curves to determine equilibrium. First, graph the demand curve given the information in the problem. Plot the points. Draw a line through the points. This is the demand curve. Next, graph the supply curve given the information in the problem. Plot the points. Draw a line through the points. This is the supply curve.	(min.) 1 2 5	Pass out handout #2: Problem. Turn on overhead. Show transparency #2. Do this on the transparency. Put up transparency #3. Do this on the transparency. 25

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
The point of intersection has a very special meaning. This is called the equilibrium point. The intersection of the supply and demand curves determines this point.	1 min.	Point to this on the overhead.
Next time we will continue our discussion of the equilibrium point. We will see how changes in demand or supply will change the equilibrium. Prices and quantities change as a result of this.	1	Turn off overhead projector.
3. <u>SUMMARY</u>	3	
a. Today you were given an introduction to demand and supply theories.		
b. Specifically, you have learned and can define the following terms.		Point to relevant areas of blackboard.
demand/supply schedule		
demand/supply curve		
Law of Demand/Supply		
The 3 determinants of demand/supply		
26		27

Definitions and Basic Concepts of Supply and
Demand Analysis Used to Determine Market Equilibrium

1. INTRODUCTION

a. Purpose

b. Objectives:

- 1) Explain how a demand curve is derived from raw data.
- 2) Graph a demand curve from the demand schedule.
- 3) State, in writing, the Law of Demand.
- 4) Explain, in writing, the three determinants of demand.
- 5) Explain how a supply schedule is derived from raw data.
- 6) Graph a supply curve from the supply schedule.
- 7) State, in writing, the Law of Supply.
- 8) Explain, in writing, the three determinants of supply.
- 9) Combine the demand and supply curves to determine equilibrium.

2. EXPLANATION

a. Demand Schedule

Definition of Demand:

Definition of ceteris paribus:

b. Demand Curve

c. Law of Demand

d. 3 determinants of demand

e. Supply Schedule

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Definition of Supply

f. Law of Supply

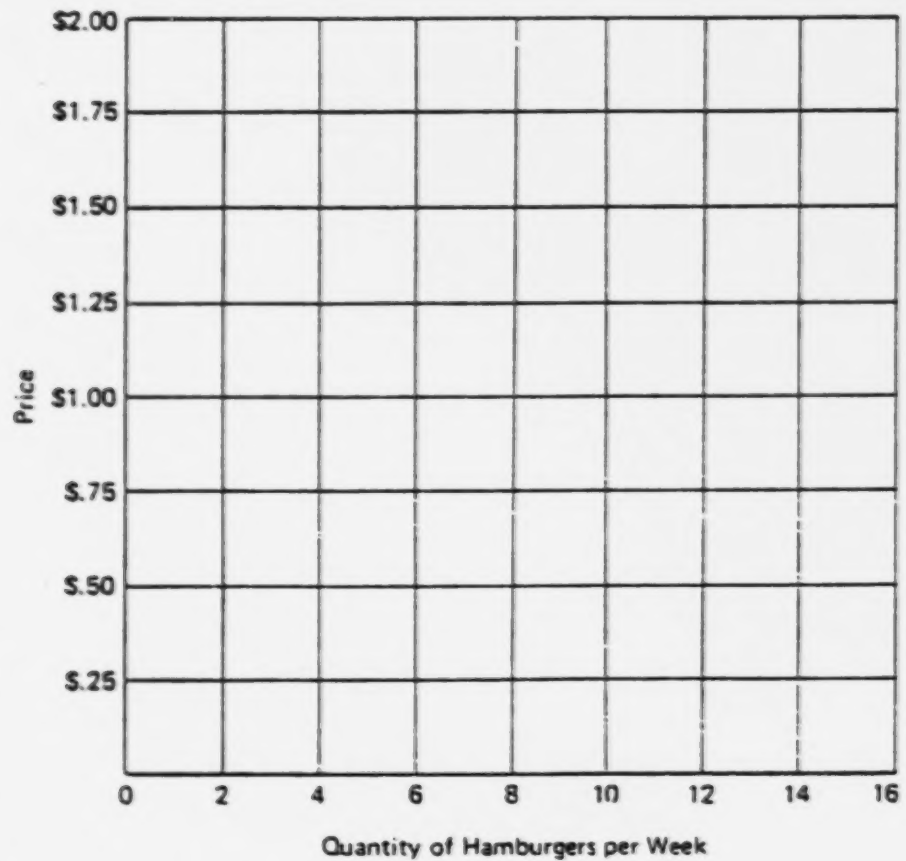
g. 3 determinants of supply

3. SUMMARY

Lesson Plan No. 6

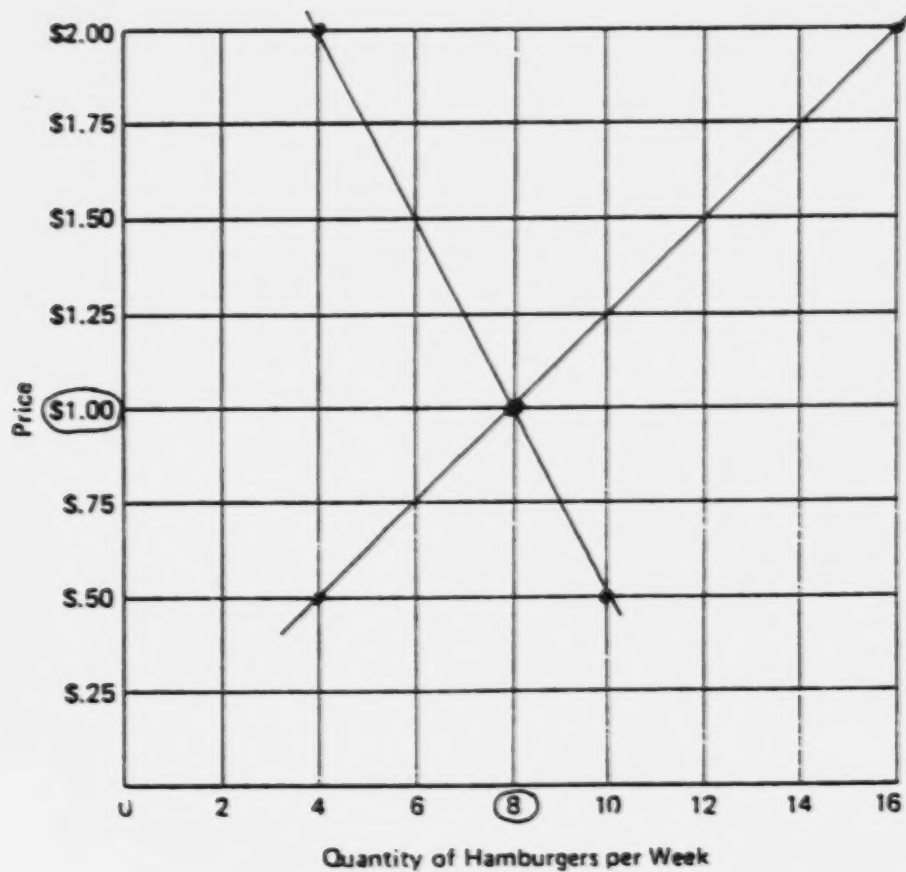
Given the following information about the lunch wagon located on Metcalf St. every weekday noon-time, graph the demand and supply curves for hamburgers.

Price	Quantity of hamburgers demanded/week	Quantity of hamburgers supplied/week
\$2.00	4	16
1.75	5	14
1.50	6	12
1.25	7	10
1.00	8	8
.75	9	6
.50	10	4



Given the following information about the lunch wagon located on Metcalf St. every weekday noon-time, graph the demand and supply curves for hamburgers.

Price	Quantity of hamburgers demanded/week	Quantity of hamburgers supplied/week
\$2.00	4	16
1.75	5	14
1.50	6	12
1.25	7	10
1.00	8	8
.75	9	6
.50	10	4



OBJECTIVES

- 1) Explain how a demand schedule is derived from raw data.
- 2) Graph a demand curve from the demand schedule.
- 3) State, in writing, the Law of Demand.
- 4) Explain, in writing, the 3 determinants of demand.
- 5) Explain how a supply schedule is derived from raw data.
- 6) Graph a supply curve from the supply schedule.
- 7) State, in writing, the Law of Supply.
- 8) Explain, in writing, the 3 determinants of supply.
- 9) Combine the demand and supply curves to determine equilibrium.

